

### Amendments to the Claims

The following Listing of Claims will replace all prior versions and listings of claims in the application.

### Listing of Claims

1. (Currently amended) A method for handling plug-and-play events occurring at a client, said method comprising ~~the steps of~~:

(a) providing a client communicating with a server over a network using a presentation-level protocol;

(b) detecting a plug-and-play event notification regarding a device in communication with the client;

(c) redirecting said event notification to the server from the client; and

(d) receiving, in response to the redirection of the event notification, a command from the server, ~~the a~~ command directed to said device.

2. (Currently amended) The method of claim 1 wherein redirecting said event notification ~~step (e)~~ further comprises ~~the steps of~~:

(c-1) generating a context identifier, said context identifier representing a virtual COM port;

(c-2) binding the context identifier to the event notification; and

(c-3) transmitting the bound context identifier and event notification to the server.

3. (Currently amended) The method of claim 1 wherein redirecting said event notification ~~includes redirecting said event notification via step (e)~~ uses a virtual channel to redirect said event notification.

4. (Currently amended) The method of claim 1, wherein receiving a command from the server ~~step (d)~~ further comprises ~~the steps of~~:

(d-1) receiving from a server a command including a generated context identifier;

(d-2) identifying the device using the context identifier; and

(d-3) issuing a command to the identified device.

5. (Original) The method of claim 1 wherein said event notification is generated as a result of a device arrival.

6. (Original) The method of claim 5 wherein said command is an open command.

7. (Original) The method of claim 1 wherein said event notification is generated as a result of a device removal.

8. (Original) The method of claim 7 wherein said command is a close command.

9. (Original) The method of claim 1 wherein said event notification is associated with at least one of a GUID, vendor ID, product ID and actual device name.

10. (Original) The method of claim 1 wherein the device in communication with the client uses one of the USB (Universal Serial Bus) protocol, IEEE 1394 protocol, Bluetooth protocol, wi-fi protocol, wireless protocol, and infrared (IR) protocol to communicate with the client.

11. (Currently amended) A method for handling plug-and-play events occurring at a client in communication with a server using a presentation-level protocol, said method comprising ~~the steps of:~~

a) receiving from said client a plug-and-play event notification regarding a device in communication with the client;

b) notifying an application program hosted by the server of the occurrence of the event notification;

c) receiving, in response to notification of the occurrence of the event notification, a command from the application program hosted by the server, the a-command directed to the device; and

d) transmitting to the client a command directed to the device.

12. (Currently amended) The method of claim 11 wherein the event notification ~~received in step (a)~~ from the client is received over a virtual channel.

13. (Currently amended) The method of claim 11 wherein the event notification ~~received in step (a)~~ includes a context identifier bound to the event notification, said context identifier representing a virtual COM port.

14. (Currently amended) The method of claim 11, further comprising ~~the steps of~~: creating a server-unique name to identify the device connected to the client that generated the event notification, said server unique name used in mapping the client device to a specific session on the server established by the presentation level protocol.

15. (Currently amended) The method of claim 11 wherein notifying an application program step ~~(b)~~ further comprises ~~the step of~~: transmitting the event notification to applications communicating with the server within the session.

16. (Currently amended) The method of claim 11 wherein notifying an application program step ~~(b)~~ further comprises ~~the step of~~: transmitting the event notification only to applications communicating with the server which have previously registered a callback for a type of event causing the event notification.

17. (Original) The method of claim 11 wherein said event notification is generated as a result of a device arrival.

18. (Original) The method of claim 17 wherein said command is an open command.

19. (Original) The method of claim 11 wherein said event notification is generated as a result of a device removal.

20. (Original) The method of claim 19 wherein said command is a close command.

21. (Cancelled)

22. (Cancelled)

23. (Currently amended) A method for handling events occurring at a client in communication with a server using a presentation-level protocol, said method comprising ~~the steps of:~~

a) receiving from said client an event notification regarding a device in communication with the client;

b) notifying an application program hosted by the server of the occurrence of the event notification;

c) receiving, in response to notification of the occurrence of the event notification, a command from the application program hosted by the server, the a-command directed to the device; and

d) transmitting to the client a command directed to the device.

24. (Currently amended) A method for informing a server about the presence of devices connected to a client, said method comprising ~~the steps of:~~

(a) providing a client communicating with a server over a network using a presentation-level protocol;

(b) emulating a plug-and-play event notification regarding a device in communication with the client;

(c) redirecting said emulated event notification to the server over a network; and

(d) receiving, in response to the redirection of the event notification, a command from the server, the a-command directed to said device.

25. (Currently amended) The method of claim 24 wherein redirecting said emulated event step ~~(e) further comprises the steps of:~~

(c-1) generating a context identifier, said context identifier representing a virtual COM port;

(c-2) binding the context identifier to the emulated event notification; and

(c-3) transmitting the bound context identifier and emulated event notification to the server.

26. (Currently amended) The method of claim 24 wherein the redirection of the emulated event notification ~~in step (e)~~ uses a virtual channel.

27. (Currently amended) The method of claim 24, wherein receiving the command from the server ~~step (d)~~ further comprises ~~the steps of~~:

(d-1) receiving from a server a command identifying the generated context ID;

(d-2) identifying the device using the context; and

(d-3) issuing a command to the identified device.

28. (Currently amended) The method of claim 27 wherein the emulated event notification received ~~in step (b)~~ from the client is received over a virtual channel.

29. (Currently amended) The method of claim 27 wherein the emulated event notification received ~~in step (b)~~ includes a context ID bound to the emulated event notification.

30. (Currently amended) The method of claim 27 wherein redirecting said emulated event ~~step (e)~~ further comprises ~~the step of~~: broadcasting the emulated event notification to applications communicating with the server.

31. (Currently amended) The method of claim 27 wherein redirecting said emulated event ~~step (e)~~ further comprises ~~the step of~~: transmitting the emulated event notification only to applications communicating with the server which have previously registered a callback with the server for a type of event causing the emulated event notification.

32. (Currently amended) The method of claim 24, wherein said client is a proxy client on a server interfacing ~~said server interfaced~~ with at least one additional server.

33. (Currently amended) A method for informing a server about the presence of network resources connected to a proxy client, said method comprising ~~the steps of~~:

- a) emulating a plug-and-play event notification regarding a network resource in communication with the proxy client;
- b) redirecting said emulated event notification to a server; and
- c) receiving, in response to the redirection of the event notification, a command from the server, ~~the a-command~~ directed to said network resource.

34. (Currently amended) ~~An article of manufacture having embodied thereon~~ A computer-readable program having executable instructions ~~means~~ for handling plug-and-play events occurring at a client communicating with a server over a network using a presentation-level protocol, the computer readable medium article of manufacture comprising:

~~computer readable program means instructions~~ for detecting a plug-and-play event notification regarding a device in communication with the client;

~~computer readable program means instructions~~ for redirecting said event notification to the server; and

~~computer readable program means instructions~~ for receiving, in response to the redirection of the event notification, a command from the server, ~~the a-command~~ directed to said device.

35. (Currently amended) The ~~article of manufacture of claim 34 wherein the~~ computer-readable medium of claim 34 program means for redirecting said event notification further comprising comprises:

~~computer readable program means instructions~~ for generating a context identifier, said context identifier representing a virtual COM port;

~~computer readable program means instructions~~ for binding the context identifier to the event notification; and

~~computer readable program means instructions~~ for transmitting the bound context identifier and event notification to the server.

36. (Currently amended) The ~~article of manufacture~~ computer readable medium of claim 34

wherein ~~instructions the computer-readable program means~~ for redirecting said event notification include instructions that use a virtual channel to redirect said event notification.

37. (Currently amended) The computer readable medium ~~article of manufacture~~ of claim 34 wherein ~~instructions the computer-readable program means~~ for receiving a command from the server; ~~a command directed to said device~~, further ~~comprise~~ comprises:

instructions computer-readable program means for receiving a command from a server that includes a command including the generated context identifier;

instructions computer-readable program means for identifying the device using the context identifier; and

instructions computer-readable program means for issuing a command to the identified device.

38. (Currently amended) The computer readable medium ~~article of manufacture~~ of claim 34 wherein said event notification is generated as a result of a device arrival.

39. (Currently amended) The computer readable medium ~~article of manufacture~~ of claim 38 wherein said command is an open command.

40. (Currently amended) The computer readable medium ~~article of manufacture~~ of claim 34 wherein said event notification is generated as a result of a device removal.

41. (Currently amended) The computer readable medium ~~article of manufacture~~ of claim 40 wherein said command is a close command.

42. (Currently amended) The ~~article of manufacture~~ computer readable medium of claim 34 wherein said event notification is associated with at least one of a GUID, vendor ID, product ID and actual device name.

43. (Currently amended) The ~~article of manufacture~~ computer readable medium of claim 34 wherein the device in communication with the client uses one of the USB (Universal Serial Bus)

protocol, IEEE 1394 protocol, Bluetooth protocol, wi-fi protocol, wireless protocol, and infrared (IR) protocol to communicate with the client.

44. (Currently amended) A computer readable medium having executable instructions ~~An article of manufacture having embodied thereon computer-readable program means~~ for handling plug-and-play events occurring at a client communicating with a server over a network using a presentation-level protocol, the computer readable medium comprising:

instructions ~~computer-readable program means~~ for receiving from said client a plug-and-play event notification regarding a device in communication with the client;

instructions ~~computer-readable program means~~ for notifying an application program hosted by the server of the occurrence of the event notification;

instructions ~~computer-readable program means~~ for receiving, in response to notification of the occurrence of the event notification, a command from the application program hosted by the server, the a command directed to the device; and

instructions ~~computer-readable program means~~ for transmitting to the client a command directed to the device.

45. (Currently amended) The computer readable medium ~~article of manufacture~~ of claim 44 wherein the event notification is received over a virtual channel.

46. (Currently amended) The computer readable medium ~~article of manufacture~~ of claim 44 wherein the received event notification includes a context identifier bound to the event notification, said context identifier representing a virtual COM port.

47. (Currently amended) The computer readable medium ~~article of manufacture~~ of claim 44, further comprising:

computer-readable program means ~~instructions~~ for creating a server-unique name to identify the device connected to the client that generated the event notification, said server unique name used in mapping the client device to a specific session on the server established by the presentation level protocol.

48. (Currently amended) The ~~computer readable medium article of manufacture~~ of claim 44 wherein the ~~instructions computer-readable program means~~ for notifying an application program hosted by the server of the occurrence of the event notification further ~~comprise~~comprises: ~~instructions computer-readable program means~~ for transmitting the event notification to applications communicating with the server within the session.

49. (Currently amended) The ~~computer readable medium article of manufacture~~ of claim 44 wherein the ~~instructions computer-readable program means~~ for notifying an application program hosted by the server of the occurrence of the event notification further ~~comprise~~comprise: ~~computer-readable program means~~instructions for transmitting the event notification only to applications communicating with the server which have previously registered a callback for a type of event causing the event notification.

50. (Currently amended) The ~~computer readable medium article of manufacture~~ of claim 44 wherein said event notification is generated as a result of a device arrival.

51. (Currently amended) The ~~computer readable medium article of manufacture~~ of claim 50 wherein said command is an open command.

52. (Currently amended) The ~~computer readable medium article of manufacture~~ of claim 44 wherein said event notification is generated as a result of a device removal.

53. (Currently amended) The ~~computer readable medium article of manufacture~~ of claim 52 wherein said command is a close command.

54. (Cancelled)

55. (Cancelled)

56. (Currently amended) ~~A computer readable medium~~ An article of manufacture having ~~executable instructions embodied thereon~~ computer-readable program means for handling events

occurring at a client communicating with a server over a network using a presentation-level protocol, the computer readable medium comprising:

~~computer-readable program means instructions~~ for receiving from the client an event notification regarding a device in communication with the client;

~~computer-readable program means instructions~~ for notifying an application program hosted by the server of the occurrence of the event notification;

~~computer-readable program means instructions~~ for receiving, in response to notification of the occurrence of the event notification, a command from the application program hosted by the server, the a-command directed to the device; and

~~computer-readable program means instructions~~ for transmitting to the client a command directed to the device.

57. (Currently amended) ~~A computer readable medium. An article of manufacture having executable instructions embodied thereon.~~ ~~computer-readable program means~~ for informing a server about the presence of devices connected to a client communicating with a server over a network using a presentation-level protocol, the computer readable medium comprising:

~~computer-readable program means instructions~~ for emulating a plug-and-play event notification regarding a device in communication with the client;

~~computer-readable program means instructions~~ for redirecting said emulated event notification to a server; and

~~computer-readable program means instructions~~ for receiving, in response to the redirection of the event notification, a command from the server, the a-command directed to said device.

58. (Currently amended) The computer readable medium ~~article of manufacture~~ of claim 57 wherein the instructions ~~computer-readable program means~~ for redirecting said emulated event notification further ~~comprise~~comprises:

~~computer-readable program means instructions~~ for generating a context identifier, said context identifier representing a virtual COM port; ~~computer-readable program means~~ for binding the context identifier to the emulated event notification; and

~~computer-readable program means instructions~~ for transmitting the bound context identifier and emulated event notification to the server.

59. (Currently amended) The computer readable medium ~~article of manufacture~~ of claim 57 wherein the redirection of the emulated event notification uses a virtual channel.

60. (Currently amended) The computer readable medium ~~article of manufacture~~ of claim 57, wherein the instructions ~~computer-readable program means~~ for transmitting the bound context identifier and emulated event notification to the server further ~~comprise~~ comprises:

instructions ~~computer-readable program means~~ for receiving from a server a command identifying the generated context ID;

instructions ~~computer-readable program means~~ for identifying the device using the context; and

~~computer-readable program means instructions~~ for issuing a command to the identified device.

61. (Currently amended) The computer readable medium ~~article of manufacture~~ of claim 60 wherein the emulated event notification is received over a virtual channel.

62. (Currently amended) The computer readable medium ~~article of manufacture~~ of claim 60 wherein the emulated event notification includes a context ID bound to the emulated event notification.

63. (Currently amended) The computer readable medium ~~article of manufacture~~ of claim 60 wherein the instructions ~~computer-readable program means~~ for identifying the device using the context further ~~comprise~~ comprises: ~~computer-readable program means instructions~~ for broadcasting the emulated event notification to applications communicating with the server.

64. (Currently amended) The computer readable medium ~~article of manufacture~~ of claim 60 wherein the ~~computer-readable program means instructions~~ for identifying the device using the context further ~~comprise~~ comprises:

~~computer-readable program means instructions~~ for transmitting the emulated event notification only to applications communicating with the server which have previously registered a callback with the server for a type of event causing the emulated event notification.

65. (Currently amended) The ~~article of manufacture~~ computer readable medium of claim 57, wherein said client is a proxy client on a server, said server interfaced with at least one additional server.

66. (Currently amended) A computer readable medium ~~An article of manufacture~~ having executable instructions embodied thereon ~~computer-readable program means~~ for informing a server about the presence of network resources connected to a proxy client, the computer readable medium comprising:

instructions ~~computer-readable program means~~ for emulating a plug-and-play event notification regarding a network resource in communication with the proxy client;

~~computer-readable program means instructions~~ for redirecting said emulated event notification to a server; and

~~computer-readable program means instructions~~ for receiving, in response to the redirection of the event notification, a command from the server, the a-command directed to said network resource.

67. (Currently amended) A method for enumerating devices communicating with a client that have been mapped into a session on a server, said method comprising ~~the steps of:~~

launching an application in a user session on a server intercepting device enumeration methods in the server-based user session;

redirecting the device enumeration methods to the server;

emulating an arrival event for at least one device enumerated by the redirected method, said device being a device in communication with a client system that was mapped into the user session prior to said application launch; ~~and~~

notifying said application hosted by the server of the occurrence of the arrival event notification; and

receiving, in response to notification of the occurrence of the arrival event, a command from the application hosted by the server, the command directed to the at least one device.

68. (Currently amended) A method for handling plug-and-play events occurring at a client, said method comprising ~~the steps of~~:

- (a) detecting a plug-and-play event notification regarding a device communicating with the client via a USB connection on the client;
- (b) redirecting said event notification to a server over a network; and
- (c) receiving, in response to the redirection of the event notification, a command from the server, ~~the a~~ command directed to said device.

69. (Original) The method of claim 68 wherein said event notification is generated as a result of a device arrival.

70. (Original) The method of claim 69 wherein said command is an open command.

71. (Original) The method of claim 68 wherein said event notification is generated as a result of a device removal.

72. (Original) The method of claim 71 wherein said command is a close command.

73. (Original) The method of claim 68 wherein said event notification is associated with at least one of a GUID, vendor ID, product ID and actual device name.

74. (Currently amended) The method of claim 68 wherein redirecting said event notification step ~~(b)~~ further comprises ~~the steps of~~:

- (b-1) generating a context identifier, said context identifier representing a virtual COM port;
- (b-2) binding the context identifier to the event notification; and
- (b-3) transmitting the bound context identifier and event notification to the server.

75. (Currently amended) The method of claim 68 wherein ~~redirecting said event notification step (b) further comprises redirecting said event notification via~~ uses a virtual channel ~~to redirect said event notification.~~

76. (Currently amended) The method of claim 68, receiving a command from the server wherein ~~step (e) further comprises the steps of:~~

- (c-1) receiving from a server a command including a generated context identifier;
- (c-2) identifying the device using the context identifier; and
- (c-3) issuing a command to the identified device.